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OFFICE OF WATER AND WATERSHEDS

EPA General Permit WAG130000 - Annual Report



**Annual Report of Operations**  
**for Year** 2018

**To comply with NPDES General Permit No. WAG130000 for Federal Aquaculture Facilities and Aquaculture Facilities Located in Indian Country within the Boundaries of the State of Washington**

NPDES # for your Facility:

WAG130020

**Facility & Owner Information**

Facility Name:  
Keta Creek Hatchery Complex

Operator Name (Permittee):  
Hugo Hernandez

Address:  
39015 172nd Ave SE  
Auburn WA 98092

Email:  
Hugo.Hernandez@muckleshoot.nsn.us

Phone:  
253-876-3341

Owner Name (if different from operator):  
Muckleshoot Indian Tribe

Email:

Phone:

**Best Management Practices (BMP) Plan**

Has the BMP Plan been reviewed this year? ☒ Yes ☐ No

Does the BMP Plan fulfill the requirements of the General Permit? ☒ Yes ☐ No

Summarize any changes to the BMP Plan since the last annual report. Attach additional pages if necessary.



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### Operations and Production

Total harvestable weight produced in the past calendar year in pounds (lbs): **72771**

Pounds of food fed to fish during the maximum month:  
**6799.5**

List the species grown or held at your facility and the annual production of each in gross harvestable weight. If fish were released rather than harvested, list the weight at time of release.

Species	Fish Produced	Receiving Water(s) to which Fish were Released	Month Released/Spawned
Chum Salmon	6,754,673	Crisp Creek	~419.3 FPP
Coho Salmon	561,409	Crisp Creek	~15 FPP
Coho Salmon	415,000	Elliot Bay Tribal Net Pen	~20FPP

Fill in the table below with production numbers from the past year. List the **maximum** amount of fish on-site and the maximum amount of food fed **per month**.

Month	Total Fish (lbs)	Fish Feed (lbs)	Month	Total Fish (lbs)	Fish Feed (lbs)
January	41301	5371	July	16000	3211
February	52541	5068	August	22026	4235
March	40614	6799.5	September	26749	4928
April	51042	4610.5	October	34999	5896
May	42816	4914	November	41147	5632
June	14657	2770.75	December	48506	5384

Additional Comments: During the months of February, March, April, and May fish are transferred and released.

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### Solid Waste Disposal

Describe the solid waste disposed of during the calendar year (including fish mortalities).

Type of Solid Disposed	Date Disposed	Location Disposed
Juvenile coho	1/1/18-12/31/18	Upland disposal
Juvenile chum	10/30/18-5/5/18	Upland disposal
Solids collected in the clarifier	9/15/18	Tribal Landfill
Additional Comments:		

### Fish Mortalities

Include a description and the dates of mass mortalities in the past year (more than 5% per week). Attach additional pages, if necessary. Include total mortalities from all causes.

Date	Cause of Deaths	Steps Taken to Correct Problem	Pounds of Fish
7/19/18-12/10/18	Parasitic or bacterial infection of unknown organism.	Ponds maintenance increased. The investigation is still in process.	KETA lost 45846 juvenile coho ~3060lbs
Additional Comments:			



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### Noncompliance Summary

Include a description and the dates of noncompliance events (including spills), the reasons for the incidents, and the steps taken to correct the problems. Attach additional pages, if necessary.

KETA Creek complex was in compliance for the year of 2018.

### Inspections & Repairs for Production & Wastewater Treatment Systems

Date Inspected	Date Repaired	Description of System Inspected and/or Repaired
Daily	Monthly Maintenance	UV lights were inspected and burnt bulbs were replaced.
Daily	Weekly maintenance	Instrumentation and water filtration equipment monitored weekly.

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## Aquaculture Drugs and Chemicals

Please indicate whether you used each drug/chemical **during the past calendar year**.

Describe the use of each drug/chemical in more detail on the following pages.

Used in the past year?	Drug or Chemical
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Azithromycin
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Chloramine-T: <i>See additional reporting requirements on page 7</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Chlorine
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Draxxin
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Erythromycin - injectable
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Erythromycin - medicated feed
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Florfenicol (Aquaflor)
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Formalin - 37% formaldehyde: <i>See additional reporting requirements on page 7</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Herbicide - describe:
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hormone - describe:
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydrogen Peroxide: <i>See additional reporting requirements on page 7</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Iodine: <i>See additional reporting requirements on page 7</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Oxytetracycline
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Potassium Permanganate: <i>See additional reporting requirements on page 7</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Romet
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	SLICE (emamectin benzoate)
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sodium Chloride - salt
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Vibrio vaccine
<input type="checkbox"/> Yes <input type="checkbox"/> No	Other:
<input type="checkbox"/> Yes <input type="checkbox"/> No	Other:



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**Aquaculture Drugs and Chemicals (cont'd)**

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: <b>Parasite-S</b>		Generic Name: <b>Formalin</b>	
Reason for use: <b>Disinfectant</b>			
<input checked="" type="checkbox"/> Preventative/Prophylactic <input type="checkbox"/> As-needed	Total quantity of formulated product per treatment (specify units): <b>Ranges</b>	Total quantity of formulated product used in past year (specify units): <b>372.4 Liters</b>	
Date(s) of treatment: <b>January 2018-December 2018</b>			Total number of treatments in past year: <b>152</b>
Maximum daily volume of treated water: <b>98.377 Gallons</b>	Treatment concentration (specify units): <b>.04L-.064L</b>	Duration and frequency of treatment(s): <b>10-15 minutes</b>	
Method of application:	<input type="checkbox"/> Static Bath <input checked="" type="checkbox"/> Flow-through	<input type="checkbox"/> Medicated Feed <input type="checkbox"/> Other (describe):	
Location in facility chemical was used (check all that apply):	<input type="checkbox"/> Raceways <input checked="" type="checkbox"/> Incubation building	<input type="checkbox"/> Ponds <input type="checkbox"/> Off-line settling basin	<input type="checkbox"/> Other (describe):
Where did water treated with this chemical go? (check all that apply):	<input type="checkbox"/> Discharged w/o treatment <input checked="" type="checkbox"/> Settling basin	<input type="checkbox"/> Septic System <input type="checkbox"/> Publicly owned treatment works	<input type="checkbox"/> Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: All treated incubation water discharges into the KETA clarifier. As the clarifier discharges it mixes with, KETA complex effluent water			

Brand Name: <b>Bio-Oregon Feed</b>		Generic Name: <b>AquaFlor</b>	
Reason for use:			
<input type="checkbox"/> Preventative/Prophylactic <input checked="" type="checkbox"/> As-needed	Total quantity of formulated product per treatment: <b>Depends on FPP and DI</b>	Total quantity of formulated product used in past year (specify units): <b>2269 lb</b>	
Date(s) of treatment: <b>3/22/18-5/19/18</b>			Total number of treatments in past year: <b>2</b>
Maximum daily volume of treated water: <b>18200 gallons</b>	Treatment concentration (specify units): <b>15 mgs/kg</b>	Duration and frequency of treatment(s): <b>14 days at 5 feedings a day</b>	
Method of application:	<input type="checkbox"/> Static Bath <input type="checkbox"/> Flow-through	<input checked="" type="checkbox"/> Medicated Feed <input type="checkbox"/> Other (describe):	
Location in facility chemical was used (check all that apply):	<input type="checkbox"/> Raceways <input type="checkbox"/> Incubation building	<input type="checkbox"/> Ponds <input type="checkbox"/> Off-line settling basin	<input checked="" type="checkbox"/> Other (describe): <b>Rearing circulars</b>
Where did water treated with this chemical go? (check all that apply):	<input type="checkbox"/> Discharged w/o treatment <input checked="" type="checkbox"/> Settling basin	<input type="checkbox"/> Septic System <input type="checkbox"/> Publicly owned treatment works	<input checked="" type="checkbox"/> Other (describe): <b>DF to EFl ine Clarifier</b>
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: <b>Effluent water passes through the drum filter and solids are sent to the clarifier.</b>			

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## Aquaculture Drugs and Chemicals (cont'd)

### ***Additional Reporting Requirements for Water-Borne Treatments***

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Static Bath Treatments		
Tank Volume	189	Liters
Desired Static Bath Treatment Concentration	100	µg/L
Volume of Product Needed	1.8	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 1:100 dilution-100 ppm Active Ingredient: 10% Povidone Iodine	Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	4977.816 LPM	Specify Units
Maximum % of Facility Discharge Treated	.038	% of Total Discharge

Flow-Through Treatments		
Tank Volume	302.83	Liters
Calculated Flow Rate	7205.0	Liters/Minute
Duration of Treatment	15	Minutes
Desired Flow-Through Treatment Concentration of Product	1,660,000	µg/L
Amount of Product to Add Initially	.64	Liters Product
Amount of Product to Add During Treatment	40	mL/Minute
Total Volume of Product Needed	.64	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 640 ml Active Ingredient: 2.33 ppm	Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	1789 GPM	Specify Units
Maximum % of Facility Discharge Treated	4.2%	% of Total Discharge



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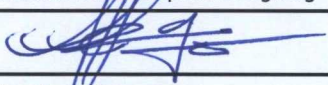
### Changes to the Facility or Operations

Describe any changes to the facility or operations since the last annual report.

There has been no changes to the hatchery facility or operations since the 2017 annual report.

### Signature and Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly evaluate and gather the information submitted. Based on my inquiry of the person or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

<i>Hugo Hernandez</i>	<i>Green River Team Leader</i>
Printed name of person signing	Title
	<i>2/19/19</i>
Applicant Signature	Date Signed

### Submittal Information

Send the complete, signed information, along with any attachments, to the following address:

U.S. EPA Region 10, OWW-191  
Washington Hatchery Annual Report  
1200 Sixth Avenue, Suite 900  
Seattle, WA 98101-3140



Date	ML used	Amount of Stacks	Formalin dripped (ML) per minute	Formalin (L)
11/24/2018	9600	16	640	0.64

Minutes treated	GPM being treated	Gallons per treatment	Total flow through vessel
15	5	75	80



Total flow through in LPM	Keta Effluent flow through Gallons	Liters of effluent per minute
302.8328	1904	7204.9264

PPM Concentration at the Heath tray	PPM in Effluent	Clarifier in liters
2113.377415	88.82811072	169900.557



Flow leaving clairifier	PPM at Discharge	Sampler
189.2705	2.333478511	TJM